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DIVISION OF OIL & GAS  
BAKERSFIELD

Getty Oil Company | Route 1, Box 197-X, Bakersfield, California 93308 • Telephone (805) 399-2961

Western Exploration and Production Division, Bakersfield District

February 11, 1983

Division of Oil and Gas  
4800 Stockdale Hwy.  
Suite 417  
Bakersfield, CA 93309

Attention: Mr. A. G. Hluza

Re: EPA's Ruling on Produced  
Wastewater Injection into the Chanac  
Zone in Kern River Field

Gentlemen:

This is in response to your letter dated January 24, 1983, regarding the EPA's ruling on produced wastewater injection into the Chanac Zone in Kern River Field.

As we have not injected into this zone since August 1980, it was not possible to obtain a recent water analysis of the injection stream. Therefore, we have attached a recent analysis of the water that is discharged into the Beardsley Canal from our water plant. This discharge water is chemically identical to the water that would be injected, except that the water would pass through one additional stage of filtering to remove any suspended solids prior to injection.

The following is in response to your other question concerning the alternate actions we would have to take if this ruling was enforced. Our current disposal zone, the Chanac/Santa Margarita formation, is located at depths between 1,800' to 2,200'. If we were not allowed to inject into this zone, we would have to inject into the next lower zone suitable for disposal which is the Vedder, located at depths between 5,000' to 6,000'. Drilling and completion costs for these deeper wells would be \$200M to \$300M/Well higher than the existing wells completed in the Chanac/Santa Margarita formation. Additionally, the Vedder zone is higher pressured and less permeable than the Chanac/Santa Margarita zones. That would mean installing and operating higher pressured larger pumps, as well as requiring more wells to handle the same volumes compared with the present zone.

We hope this information would be helpful to you in your discussions with the EPA on this matter. If you have any questions or require further information, please contact Ernie Megginson at (805) 399-2961, Ext. 2461.

Very truly yours,

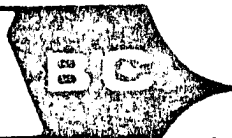
C. G. Bursell  
District Production Manager

EAM/bb  
Attachment

ANALYSIS

PETROLEUM

NATURE



LABORATORIES, INC.

4100 PIERCE ROAD, 93308

BAKERSFIELD, CALIFORNIA 93308

PHONE 327-4911

Submitted By: Getty Oil Company  
Route 1, Box 197-X  
Bakersfield, California 93308  
Attention Mr. Bill Taylor

Date Reported: 1/6/83  
Date Received: 12/21/82  
Laboratory No.: 14077

Marked: Canal Discharge 12/21/82

## WATER ANALYSIS

Constituents, Parts/million

Boron (B)	0.50
Calcium (Ca)	41.
Magnesium (Mg)	3.4
Sodium (Na)	210.
Potassium (K)	16.
Carbonate ( $\text{CO}_3$ )	17.
Bicarbonate ( $\text{HCO}_3$ )	202.7
Chloride (Cl)	222.
Sulfate ( $\text{SO}_4$ )	80.
Nitrate ( $\text{NO}_3$ )	(-) 0.4
Fluoride (F)	0.69
Iron (Fe)	0.07
Manganese (Mn)	0.04
Copper (Cu)	(-) 0.01
Zinc (Zn)	0.01
Aluminum (Al)	(-) 0.1
Silica ( $\text{SiO}_2$ )	154.
Phosphate ( $\text{PO}_4$ )	(-) 0.1
Total Hardness as $\text{CaCO}_3$	116.6 (6.8 gr/gal)
Total Dissolved Solids	946.
Oil (Freon extraction)	0.1
pH	8.8
E.C., Micromhos/cm, ( $\text{K} \times 10^6$ ) @ $25^\circ\text{C}$	1200.
Resistivity, Ohm $\text{M}^2/\text{M}$	8.33

(-) refers to "less than".

B C LABORATORIES, INC.

BY

*J. J. Eglin*  
J. J. Eglin